

In the specification:

Please amend the paragraph beginning at page 10, line 27 as follows:

*Arabidopsis* plants expressing DNA methyltransferase 1 (Met1) antisense (Met 1as) gene contain reduced levels of DNA methyltransferase activity and a correspondingly reduced level of general DNA methylation (Finnegan et al., 1995-1996; Ronemus et al., 1996). In contrast to *ddm* mutants, *Arabidopsis* plants expressing a Met1 as gene develop various developmental abnormalities at high frequency and without repeated self-fertilization, including floral abnormalities (Finnegan et al., 1996). PCT/US971/13358 also reports that *Arabidopsis* plants expressing a Met1 as gene alter the rate of development of the plant. The development of the endosperm in *ddm* mutants and plants expressing Met1as has not been reported.

Please amend the paragraph at page 18, line 17 as follows:

i)Methylase 1 (acc. nr.[:] L<sub>E</sub>10692;

Please amend Table 1 at pages 25-26, rows 8-9, 11 and 13, and at footnote 8 as follows:

Table 1. Outcomes of control crosses and crosses involving Met1 antisense and *ddm* mutant plants.

Cross	Interploidy cross phenotype <sup>1</sup>	Viability of hybrid see (%) <sup>2</sup>	Maximum number of peripheral endosperm nuclei <sup>3</sup>	Relative volume of chalazal endosperm <sup>4</sup>	Relative change to cellularization time (days) <sup>5</sup>	Seed weight (μg) <sup>6</sup>
2x-2x	NA	95-100	400	1	0	22
4x-4x	NA	95-100	400	2.5	0	36
6x-6x	NA	95-100	300	3.5	0	44
2x-4x	PE	95-100	640	2	+1	54
4x-2x	ME	95-100	80	0.6	-1	14
2x-6x	PE	0 <sup>7</sup>	400	6.8	Absent	6
6x-2x	ME	0 <sup>7</sup>	50	0.2	-1.5	4
2xmet-2xmet	PE	95-100	350	1	0	15
2xmet-2xmet		(90) <sup>8</sup>	(598) <sup>8</sup>			(13.6) <sup>8</sup>
2x-2xmet	ME	95-100	200	0.5	-0.5	10
2xmet-2xmet		(93) <sup>8</sup>	(227) <sup>8</sup>			(9.5) <sup>8</sup>
2xmet-2x	PE	95-100	450	1.75	+0.5	20
2xmet-2xm		(97) <sup>8</sup>	(1,365) <sup>8</sup>			(32.5) <sup>8</sup>

2xddm-2xddm	PE	95-100	350	1.25	0	19
2x-2xddm	ME	95-100	250	0.5	-0.5	12
2xddm-2x	PE	95-100	400	2	+0.5	21
4x-2xmet	ME	0 <sup>7</sup>	740	4.4	>+3	15
4x-2xddm	ME	0 <sup>7</sup>	150	0.3	-1.5	5
2xddm-4x	PE	0 <sup>7</sup>	680	3.5	>+3	5

NA, not applicable; PE, paternal excess; ME, maternal excess.

<sup>1</sup>, either paternal (PE) or maternal (ME) excess as defined in Scott et al., 1998. <sup>2</sup>, determined by germination on soil. <sup>3</sup>, counts done as described in Scott et al., 1998. <sup>4</sup>, calculated relative to amount in 2x-2x control cross at heart stage (approx. 5 DAP). <sup>5</sup>, expressed relative to 2x-2x control cross (usually 5 DAP). <sup>6</sup>, measured as described in Scott et al., 1998. <sup>7</sup>, seeds shriveled. <sup>8</sup>, this experiment was performed later subsequent to the experiment that yielded the non-bracketed data and used improved growing techniques for the met1a/s plants. This resulted in more vigorous plants which presumably accounts for the observed changes in seed weight. Note however that the changes are qualitatively the same as the original experiment i.e., i.e., 2x-2xmet are small than 2xmet-2xmet and 2xmet-2x are larger.

Please amend Table 3 at pp. 33-34 as follows:

Cross	Outcome of Cross		
	Endosperm Phenotype	Seed viability (%germination)	Hybrids formed?
4xA. thalianaX A. lyrata	ME	0	NO
4xA. thalianaMet1a/s X A. lyrata	Moderate PE	95-100	YES
4xA. thalianaX C. arenosa	Lethal PE	95-100	YES
2[4]xA. thalianaX C. arenosa	Lethal PE	0	NO
4xA. thalianaMet1a/s			

X <i>C. arenosa</i>	Lethal PE	0	NO
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Please amend the paragraph beginning at page 34, line 25 as follows:

In the absence of fertilization, *Arabidopsis* plants heterozygous for the *fie-1* mutation (*fie/FIE*) produce seeds with partial endosperm development (Ohad et al., 1996; 1999; see also Table 3-Table 4 and Fig. 12 A-C). These 'autonomous' endosperms consist of a severely reduced number of endosperm nuclei (compared to wild type controls) and the endosperm fails to undergo cellularization. The seed collapses and becomes shriveled at maturity (Table 4). Consequently, the *fie* mutation conditions only limited endosperm development restricting its utility in the production of autonomous apomictic seed crops or embryoless seed crops. Endosperms produced in plants carrying the *fis1/mea* and *fis2* mutations are very similar to those of *fie/FIE* plants, and hence the utility of these genes is also restricted.

Please amend Table 4, at page 37 in the header for Seed weight as follows:

Table 4. Enhancement of endosperm development in *fie* mutant seeds by hypomethylation.

	Mature Seed phenotypes (%) <sup>1</sup>		Seed viability <sup>2</sup>		Seed weight (μg) <sup>3</sup>		Extent of endosperm development (%) <sup>4</sup>	
	Plump seeds	Shriveled seeds	Plump seeds	Shriveled seeds	Plump seeds	Shriveled seeds	Complete	Partial
FIE/ <i>fie</i> X 2x	50	50	95-100	0	25	15	50	50 <sup>5</sup>
FIE/ <i>fie</i> X 2xmet	100	0	95-100	NA	50%=15 50%=30	NA	100	0
FIE/ <i>fie</i> emasculate	0	100	NA	0	NA	5	0	100 <sup>6</sup>
FIE/ <i>fie</i> : 2xmetHET emasculate	0	100	NA	0	NA	20	100	0